

Painting with aluminum



NY OF AMERICA

PITTSBURGH, PENNSYLVANIA

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you

and

we

— have a lot in common

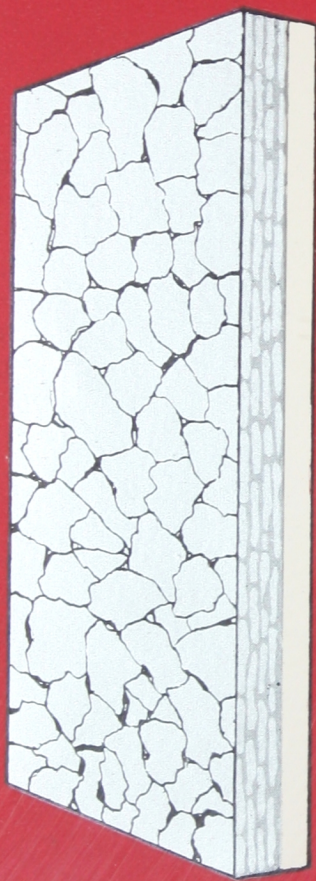
We of Alcoa have an interest in common with you, the reader of this book. You are interested in paint that gives you the most for your money — per square foot of protection and per year of service. We, as producers of the finest in aluminum pigments, are interested in seeing that you get that kind of good protection and long service, which the best aluminum paints can give.

Aluminum Company of America does not make or sell paint. But, because of the wide acceptance of aluminum paint, we feel an obligation to the paint user. This obligation to you prompts us to point out that all aluminum paints are not alike — that every paint with an aluminum "color" will not necessarily give you the same high standard of performance you have a right to expect.

That is the primary reason for this book — why you should read it.

First, so that you will know what you can expect from the right aluminum paint, correctly formulated for the surface on which you use it. Second, so you will know what to look for in such aluminum paints, why they perform so well, and how to obtain them.

Here are the facts _____
back of Industry's Knowledge that



*“there’s
no other
paint like
aluminum”*



flakes arrange themselves in parallel layers

Most paints are a combination of an inorganic pigment and an oil or varnish. When paint is applied, the liquid part or "vehicle" dries to form a film. Aluminum paint, with its metallic pigment forms a film whose structure is fundamentally different. To understand the high performance of aluminum paint, consider what happens when it is brushed out.

● FLAKES, NOT GRANULES

To begin with, the aluminum pigment is in the form of minute, highly polished flakes, instead of the granules typical of other paint pigments. As the paint is applied, these flakes "leaf," arranging themselves in parallel layers from five to 10 flakes deep, with a cement of varnish between each layer. The top layer forms a brilliant, almost continuous film of aluminum. This leafing action accounts for many of the valuable properties of aluminum paint — one of the reasons it differs from other paints.

● UNEQUALLED DURABILITY

Aluminum paint is durable because the metal flakes in the dried film are opaque to light and impervious to moisture. The first quality protects the paint film itself, for sunlight soon injures a varnish unprotected by pigments. The second — moisture resistance — protects the surface beneath.

This laminated structure, by preserving the binder, means that it is only by the slow weathering away of each succeeding layer that the time finally comes when the paint must be renewed.

● UNUSUAL RESISTANCE TO MOISTURE AND WEAR

It is this unique paint film — overlapping layers of corrosion-resistant metal flakes cemented together by the durable, waterproof vehicle — which gives correctly-formulated aluminum paints their unequalled resistance to moisture, fumes and wear. Moisture, for example, must

follow a much longer path around and between the innumerable flakes before it can reach the underlying surface.

Aluminum paint gains its resistance to fumes from this same laminated film, plus the fact that the pure aluminum flakes are themselves highly resistant to the corrosive action of common industrial gases and those of many chemicals.

This ability to resist moisture and fumes, coupled with the protection against sunlight-deterioration which the metal flakes provide, gives correctly-formulated aluminum paint a life expectancy far exceeding that of most industrial maintenance coatings. Those are the sound reasons back of its lower cost "per year."

● UNMATCHED HIDING POWER

Everyone using aluminum paint for the first time is amazed at its hiding power. Stains, colors, or dark surfaces are completely hidden by an aluminum film only .0005 inch thick, when it is uniformly applied. This high hiding power makes possible lower cost *per foot* — a real economy in industrial painting. A single coat will provide brilliant coverage on any interior surface badly soiled or smoke-stained.

● HIGH REFLECTIVITY

Aluminum paint's high reflectivity for light and radiant heat is one of its most important qualities. Its use on interiors makes for better-lighted working areas. When used on roofs, tanks and metal buildings, it throws back much of the sun's heat and keeps interiors many degrees cooler.

● SUPERIOR HEAT RESISTANCE

Aluminum paints are extensively used on heated surfaces. Properly formulated, they will withstand high temperatures. This is an additional advantage of this versatile metallic paint, for without such protection, heated metals, which are readily oxidized, soon begin to show the effects of rust and deterioration.

How to select

*correctly formulated
aluminum paints*





Except for certain well-defined specialized applications, the use of aluminum maintenance paints by business and industry falls into three general classes. These are: (1) for metal, concrete and masonry, and other non-absorbent surfaces such as composition roofs; (2) for weather-exposed wood; (3) for heated surfaces, and for other surfaces, not exposed to weather.

● THREE TYPES NEEDED

Paint users should no more think of using "any aluminum" than they would think of using "any white" on all these surfaces.

Obviously, the surface conditions and their paint requirements vary greatly.

You know, for example, that *wood* is moisture-absorbent. It swells and shrinks with weather changes. Wood requires a full-bodied paint, rich in oil, that can expand and contract with the wood without flaking and cracking.

Metal, brick, concrete, and other hard or non-absorbent surfaces, however, require a different type paint. It should be hard drying, medium-bodied, contain waterproofing resins, and with sufficient oil to give good elasticity. This type of paint protects against moisture, rust formation. And provides a hard, durable, chemically-resistant finish.

Heated surfaces require a third type; a low viscosity paint, in which most of the oils are replaced by high-quality, heat-resisting resins.

● READY-MIXED ALUMINUM PAINTS NOW AVAILABLE

For many years, industry purchased vehicle and aluminum pigment separately and mixed them on the job using these general specifications as their guide.

Continuous improvement in both aluminum pigments and paint vehicles now makes possible

ready-mixed aluminum paints that offer excellent performance and produce brilliant, well-leaved films.

They give the paint user the advantage of careful, scientifically-controlled formulation in the modern plants of good paint manufacturers.

It may be news to you that these three types of aluminum paint are being produced, ready-mixed, to high quality standards, by many paint manufacturers today.

So that they can be readily identified, they are sold by these manufacturers under the descriptive names of:

● ALUMINUM METAL AND MASONRY PAINT, a durable, protective, water-proof finish for metal, brick and concrete surfaces. It produces a thick, tough metallic coating of unusual durability, reflectivity and brilliance.

● ALUMINUM PAINT FOR WOOD (sometimes called Aluminum House Paint), an oil-rich paint, for painting weather-exposed wood. It provides an elastic and durable film that serves as either a primer or finish coat.

● ALUMINUM ENAMEL (heat resisting) a fast-drying, chrome-like, satin-smooth finish for interior use. It is ideal for decorative purposes, and will also protect hot surfaces which reach 600° to 800° F.

These manufacturers' labels carry this warranty: "The aluminum paint in this package is equal in quantity and quality of ingredients, and is the same in all other respects, to the master sample of our paint checked by Aluminum Company of America, and judged by them to be generally suitable for painting the surfaces listed on the direction label."

choose
from these
3 types of
aluminum
paint

*to meet the bulk of
your maintenance
painting needs*



Made by name paint manufacturers and sold under their brand names. The manufacturer's warranty is your assurance that he uses the best in aluminum, Alcoa Alboon Pigment, and that his paints are of finest quality.



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For Special Application

ALUMINUM METAL AND MASONRY PAINT

Is the best paint for steel, brick, stucco, and all hard, non-absorbent surfaces, indoors and out. Combines the full amount of 325 mesh aluminum pigment with a high solids, waterproof varnish vehicle. Produces a thick, hard, wear-resistant film of unusual durability, reflectivity, and brilliance.

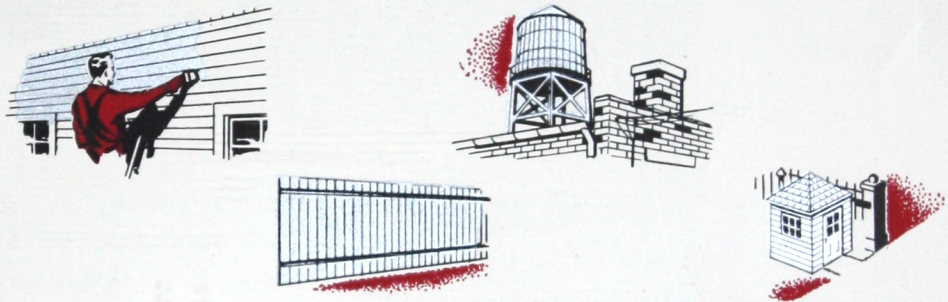
Recommended for: Metal, brick and concrete, indoors or out, for composition roofs, bridges, tanks, grain elevators.



ALUMINUM HOUSE PAINT

Is formulated for one purpose only — the protection of weather-exposed wood. Its full-bodied, oil-rich vehicle, with just the right amount of aluminum pigment, provides a tight-clinging film of maximum elasticity and durability that serves as either a primer or a finish coat.

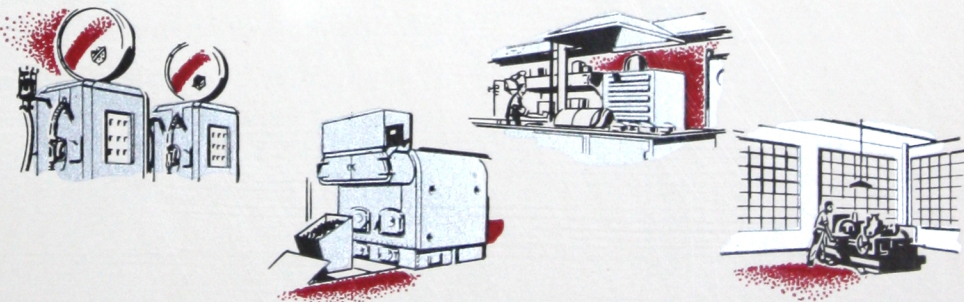
Recommended for: Wooden building exteriors, wood sash and frames, protection of wooden structures of all types.



ALUMINUM ENAMEL

Gives a mirror-like coating for interior decorative uses and on hot surfaces reaching 600° to 800° F. The quick-drying, heat-resistant enamel vehicle is amply pigmented with the finest aluminum (400 mesh) for a satin-smooth "chrome" finish of outstanding beauty.

Recommended for: Hot surfaces — boilers, radiators, ovens, laundry equipment, etc. Also, for beautiful chrome-like finishes.



consult your paint manufacturer

On the following page, we discuss some specialized paint uses, which require individually formulated paints for best results. The three aluminum paints described above will meet the bulk of your maintenance painting needs. Your paint supplier will be glad to make recommendations for other requirements.

Your paint manufacturer can supply

*special aluminum
paints*

where required for special applications

Certain particular properties are sometimes required in aluminum paints for such applications as in atmospheres containing chemical fumes, weather-exposed heated surfaces, and surfaces to be submerged in water.

Properly formulated aluminum paints will give excellent service under these uncommon conditions. Such service requires vehicles with particular chemical-resistant characteristics.

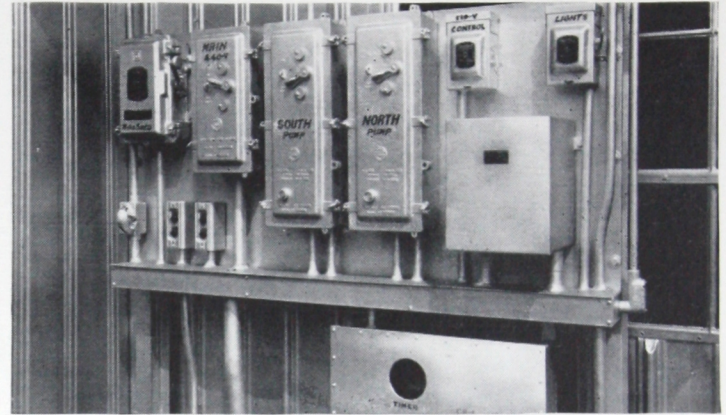
Your paint supplier will be glad to have you consult with him about such formulations. Improvements in paint vehicles and the general advancements that have been made in paint chemistry in recent years make it possible to meet many unusual requirements of aluminum paints.

If any further information is needed, and is not readily available from your paint supplier, our technicians will be glad to advise you. Write PAINT SERVICE BUREAU, Aluminum Company of America, Gulf Bldg., Pittsburgh 19, Pa.

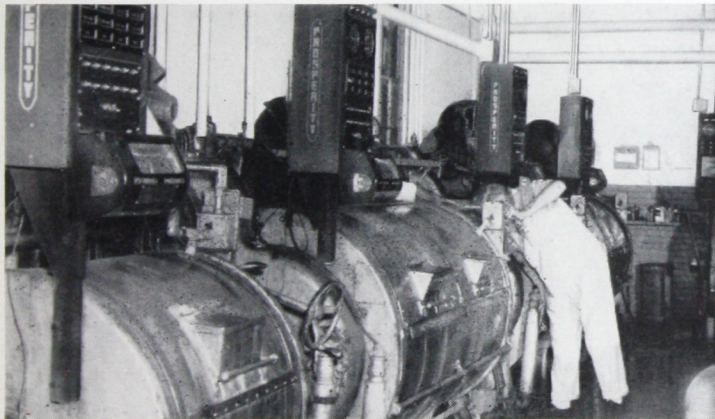
The unique qualities of aluminum paint
make it the *"favorite maintenance paint"*
in every industry



Where food is prepared — where cleanliness is essential — Aluminum Metal and Masonry Paint adds to the spic and span appearance.



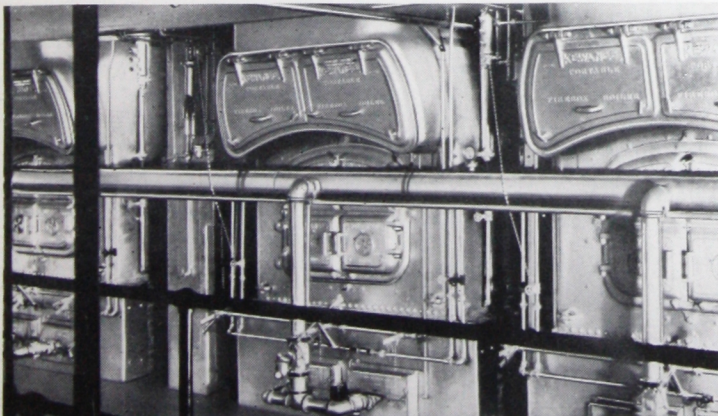
Aluminum Metal and Masonry Paint protects the surface of control boxes. Offers good contrast for identification lettering.



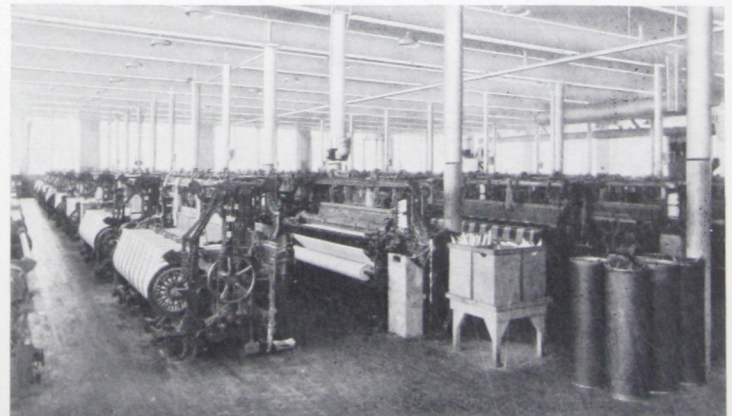
Where steam is present — Aluminum Metal and Masonry Paint spreads condensed moisture — reduces dripping.



In locker rooms Aluminum Metal and Masonry Paint takes wear and grease in stride — stays bright and clean.



Aluminum Enamel is ideal for heated surfaces. Lasts longer, reduces heat loss.



Aluminum Metal and Masonry Paint reflects light and protects surfaces against moisture.

ALUMINUM

PAINTS

GIVE

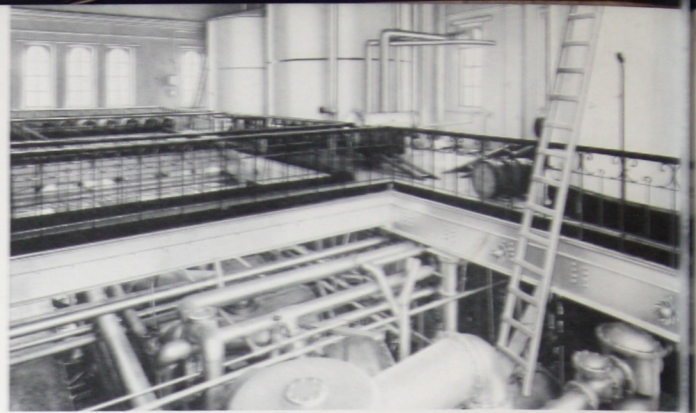
NOTEWORTHY

ADVANTAGES

...in addition to

more protection

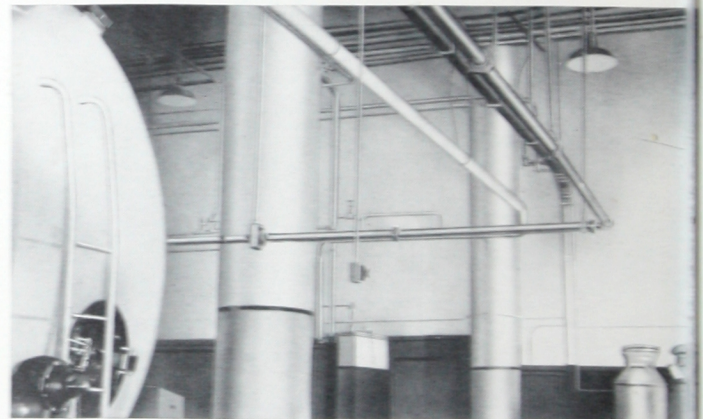
for the money



Brewery visitors are favorably impressed by the bright, clean appearance of Aluminum Metal and Masonry Paint — and it stays brighter longer.



Aluminum Metal and Masonry Paint is the accepted standard for use in oil refineries on tanks and all other equipment.



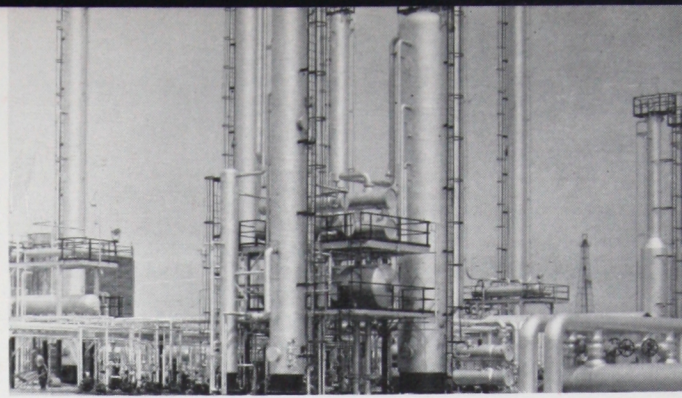
Aluminum Metal and Masonry Paint adds bright cleanliness to dairy work rooms. It's sanitary and non-toxic.



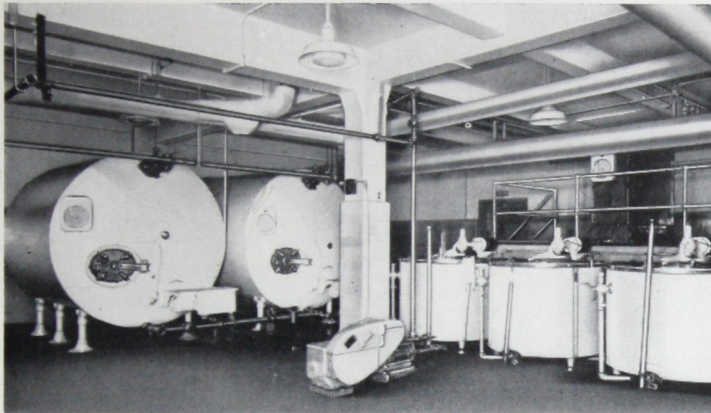
In the coal industry, Aluminum Metal and Masonry Paint gives metals extra long life, lower maintenance costs.



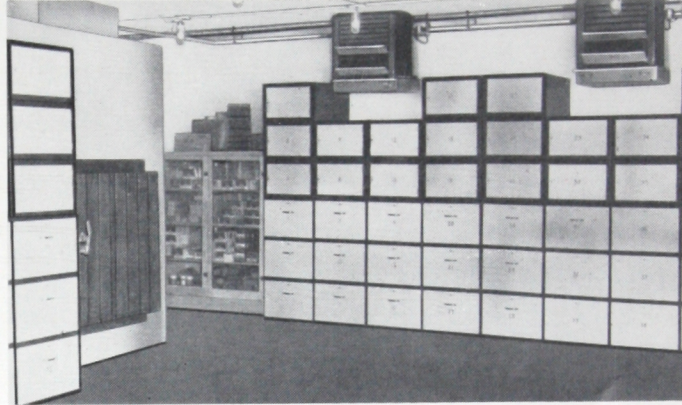
Where grains are stored, Aluminum Metal and Masonry Paint holds inside temperature down — reduces hazards — offers unequalled protection against the weather.



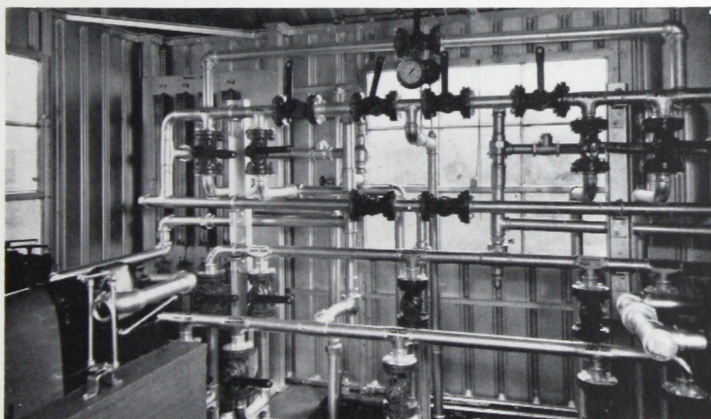
At refineries, Aluminum Metal and Masonry Paint makes pipes, tanks — *all* exposed metals last longer. For hot surfaces use special heat-resisting aluminum paints.



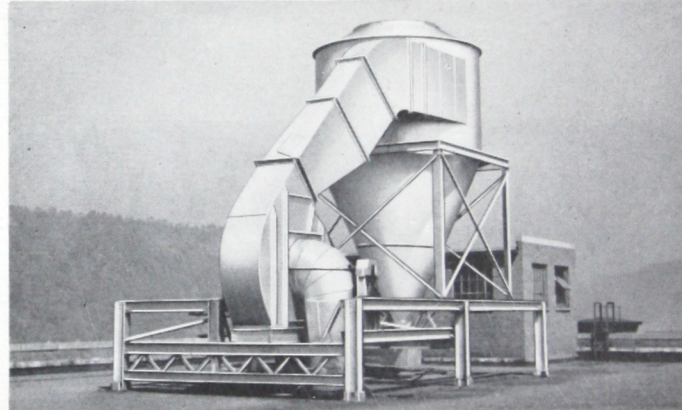
Cleanliness—and Aluminum Metal and Masonry Paint—go hand in hand — almost a must where food is handled.



Customers like the clean, bright appearance of their lockers when painted with Aluminum Metal and Masonry Paint.



Aluminum Metal and Masonry Paint highlights complicated piping structures — aids valve identification — reduces errors.



Metals exposed to industrial atmospheres look better — last longer — when covered with Aluminum Metal and Masonry Paint.



The high reflectivity of Aluminum Metal and Masonry Paint aids in color matching — facilitates make-ready — eases registering problems.



Aluminum Metal and Masonry Paint looks well on all industrial equipment and gives satisfactory service for more years.

NO MATTER

WHAT THE

APPLICATION

... there's

no paint

like

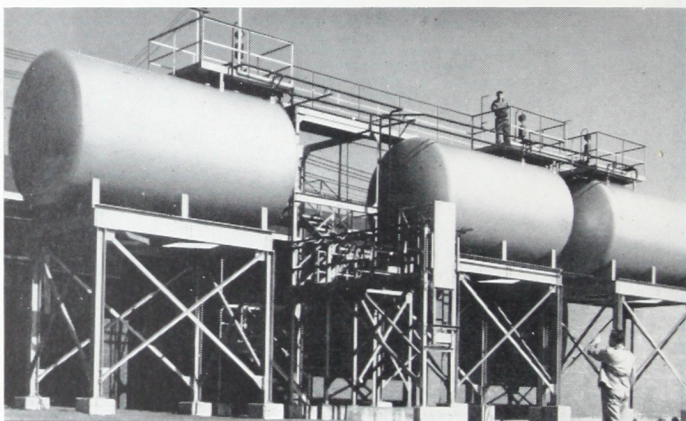
aluminum



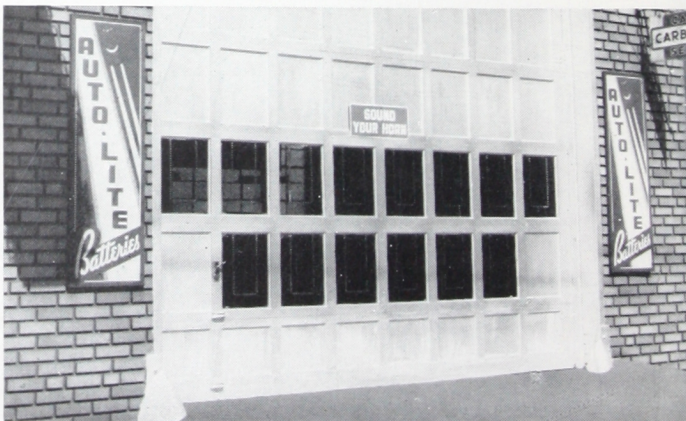
Aluminum Metal and Masonry Paint keeps buses attractive—offers a tough weather resistant skin that reflects heat.



Unequaled as a protective paint — Aluminum Metal and Masonry Paint when used on bridges reduces hazards of night driving.



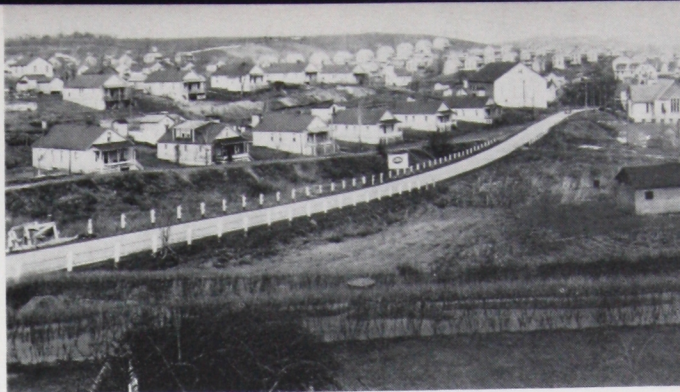
Aluminum Metal and Masonry Paint protects metal tanks against corrosive gases. High reflectivity keeps interior temperatures lower.



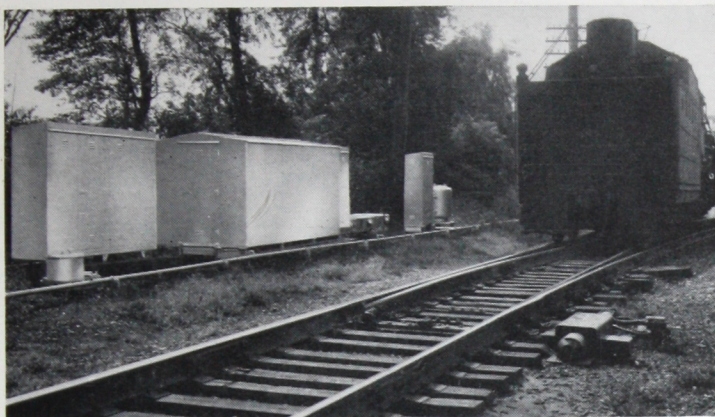
Exposed wood doors last longer — warp less when painted with Aluminum House Paint.



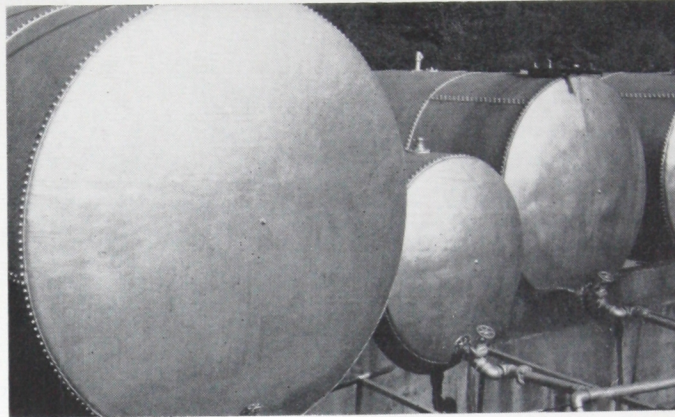
For trucks or trailers, Aluminum Metal and Masonry Paint offers a bright, visible finish that reduces accidents.



There is no paint like Aluminum House Paint for keeping houses in company towns new looking and in good condition.



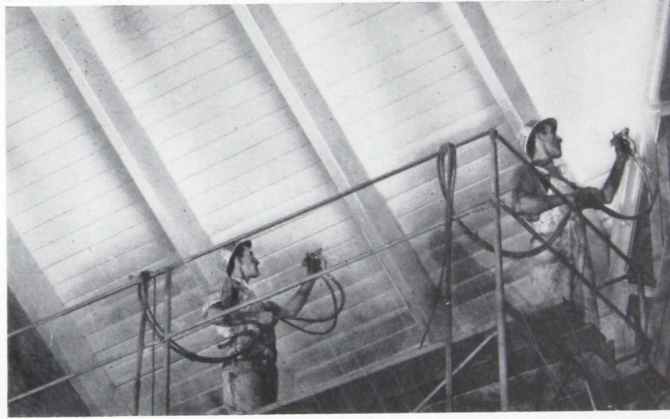
Metal instrument cases along the right of way are only one of many examples of railway equipment protected with Aluminum Metal and Masonry Paint.



Bulk storage tanks painted with Aluminum Metal and Masonry Paint have good advertising value and evaporation losses are reduced to a minimum.



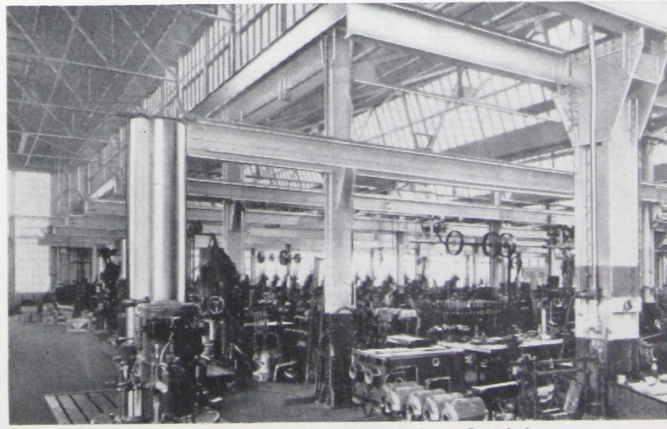
Woven fences need less maintenance when you use Aluminum Metal and Masonry Paint. It hides with only *one* coat; use two coats for best results.



Use Aluminum Metal and Masonry Paint on hard-to-reach interiors. It saves money, reflects light, prevents moisture absorption.



Wooden fences require a coat of Aluminum House Paint for the very best protection against deterioration.



Maintenance men prefer the high reflectivity, one coat hiding power, and long-lasting qualities of Aluminum Metal and Masonry Paint.

For best results

*choose the right
aluminum paint*

and prepare the surface properly before you apply it

No matter what kind of paint you use — aluminum or any other — the preparation of the surface for painting is extremely important.

As a general rule, interior painting with aluminum paint requires only one coat for brilliant results on any surface which has been properly cleaned of dust, dirt, and grease before applying the paint. Except where moisture condensation is frequent and severe, no priming coat is necessary.

For such general interior use, Aluminum Metal and Masonry Paint may be used on any kind of surface except those which are to be heated above 212° F. *On a surface to be heated, Aluminum Enamel should always be used.* Aluminum Enamel may also be used on any interior where a high chrome-like luster or extreme smoothness is required in the finish. In painting interior walls, some further suggestions may be helpful. For example, a dark green dado four or five feet high will not show soil marks caused by finger prints or scrub water. It also improves the general appearance of the job.

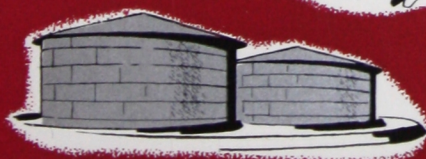
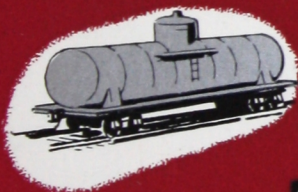
Electrical insulation, or open light wires and sockets should not be sprayed with aluminum paint, as it might cause a short circuit. Such locations should either be masked, or the painter should paint around them with a brush.

For outdoor use, where surfaces are exposed to weather, Aluminum Metal and Masonry Paint is the ideal for the finish coats.

It may be used on any surface except weather-exposed wood. However, it is important that weather-exposed steelwork be cleaned of rust or scale, and primed with a rust-inhibitive priming coat (such as red lead, blue lead or zinc chromate) before the aluminum paint is applied.

Weather-exposed wood, on the other hand, should be primed with one coat of Aluminum Paint for Wood (Aluminum House Paint), and after this priming coat has dried for at least a week, it can be given a finish coat of the same paint, or it may be top coated with any other high quality white or colored oil-based paint.

aluminum paint on *steel*



Aluminum paint has become one of the most widely used protective coatings for steel, not only because of its durability, but also because it is light and attractive in color, reflects radiant heat, and gives industrial properties a well-kept look. The importance of a clean surface cannot be over-emphasized in painting steel. If proper care is not taken in surface preparation, much of the effort of the paint manufacturer in producing quality paint is wasted.

Weather-Exposed Steel

Surfaces to be painted: Bridges, Transmission Towers, Oil Storage Tanks, Tank Cars, Water Tanks, Sheet Metal Roofs, Ventilators, Corrugated Siding, Window Sash and Frames, Metal Buildings, Lamp Posts, Coal Tipples, and similar applications.

Uses: As a finish coat, over rust-inhibitive primer.

Paint: Aluminum Metal and Masonry Paint.

Application: After removal of dirt and grease (by washing with mineral spirits), steel surfaces should be made as free as possible from all loose rust and scale. This may be done by sandblasting, or the use of steel scrapers, and wire scratch-brushes. The surface should be dry before applying the primer. Before application of the aluminum paint, the surface should be primed with paints made with red lead, blue lead, zinc chromate, or similar good rust-inhibitive pigments. After the primer has dried, one or two finish coats of Aluminum Metal and Masonry Paint may be applied. The first coat will be found adequate for hiding, and the second coat should be added because of the years of extra durability it will give.

Steel on Interiors

Interior steel work, which is not exposed to weather and which has been thoroughly cleaned, ordinarily requires no rust-inhibitive priming coat unless unusual exposure conditions are encountered. One coat of Aluminum Metal and Masonry Paint will be found satisfactory for such work. It will provide high hiding power, and a smooth, clean surface. If high luster and smoothness is desired, Aluminum Enamel may be used.

on galvanized iron and tin plate

Aluminum paint has been widely used on galvanized iron surfaces. It may be applied satisfactorily without a primer, if the surface has been exposed to active weathering for at least six months. On new galvanized iron, the zinc surface should be chemically treated for good adhesion of the paint. The use of a zinc dust-zinc oxide primer is beneficial.

Weather-Exposed Galvanized Iron

Surfaces to be painted: Transmission Towers, Corrugated Siding, Gutters and Downspouts, Roofing and Flashing, Metal Ventilators, and similar applications.

Uses: As first and finish coats.

Paint: Aluminum Metal and Masonry Paint.

Application: Allow the galvanized iron to weather not less than six months. Then, after thorough cleaning, apply one or two coats of Aluminum Metal and Masonry Paint, or one coat over a zinc dust-zinc oxide primer.

Galvanized Iron on Interiors

Surfaces to be painted: Corrugated Sheet, Pipe, Hot Air Ducts, Furnace Jackets, Tanks, etc.

Uses: As first and finish coats.

Paint: Aluminum Metal and Masonry Paint.

Application: Treat galvanized iron with one of the proprietary phosphate treatments designed for this purpose and rinse with clean water. Allow to dry. As an alternate treatment the surface may be washed with a solution of eight ounces of copper sulfate in one gallon of warm water, and allowed to dry. Apply one or two coats of Aluminum Metal and Masonry Paint.

Weather-Exposed Tinplate

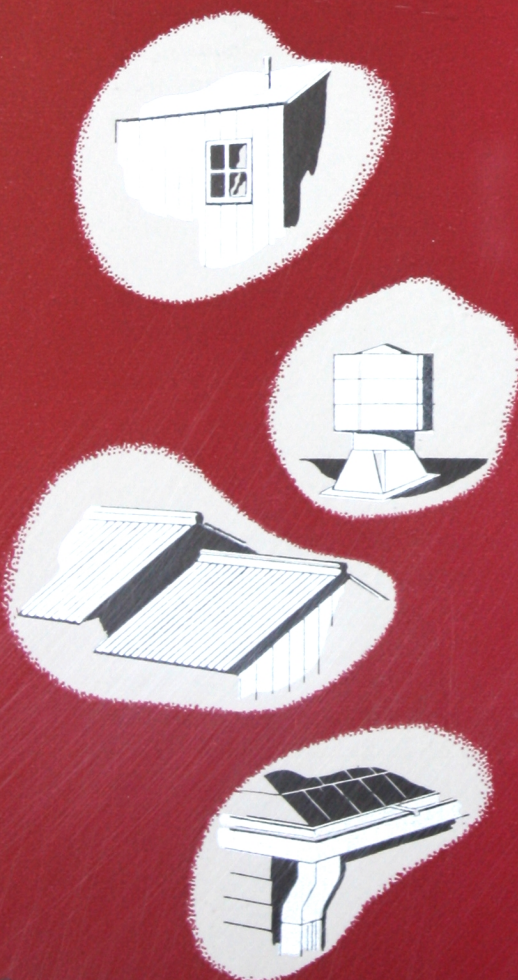
Tinplate is often used as a roofing material. It must be protected, or it will soon rust. Aluminum paint should be applied to it soon after installation. If tinplate has already rusted, it should be thoroughly cleaned and a rust-inhibitive primer should then be used before application of the aluminum.

Surfaces to be painted: Roofs, Flashing, Ducts, and similar applications.

Paint: Aluminum Metal and Masonry Paint.

Application: On new tinplate, wash off grease or dirt with mineral spirits or naphtha. Allow to dry. Apply one or two coats of Aluminum Metal and Masonry Paint, depending upon the durability desired.

Where tinplate has rusted, scratch-brush thoroughly, wash, then apply rust-inhibitive primer followed by one coat of Aluminum Metal and Masonry Paint.



aluminum paint on *concrete*

The weathering of concrete, in such structures as tank supports, grain elevators, etc. may be a serious maintenance problem. This deterioration is attributed in part to the action of water and frost, but much of it may be caused by the growth of crystals from mineral salt solution held in and beneath the cement surface. Aluminum paint has proved successful in retarding or preventing this action by waterproofing the surface.

Aluminum paint should *never* be applied over *new* concrete. The free alkali in the cement combines with the vehicle and destroys its valuable properties. The surface should be allowed to *age* for at least four to six weeks or should be treated with a zinc sulfate solution to neutralize the active materials present in cement.

Aluminum Metal and Masonry Paint is formulated with chemically resistant ingredients to give good service on aged or treated concrete structures. It excludes moisture, preventing weather attack, and compensates against the factors that cause the growth of destructive sub-surface crystals.

Application: The concrete surface should be thoroughly scratch-brushed to remove dust and loose material. All cracks and crevices should be patched and filled and the new surfaces allowed to dry thoroughly before painting. Then apply one coat of Aluminum Metal and Masonry Paint as a sealer and primer, and after at least 48 hours apply a second coat for increased protection against weathering.



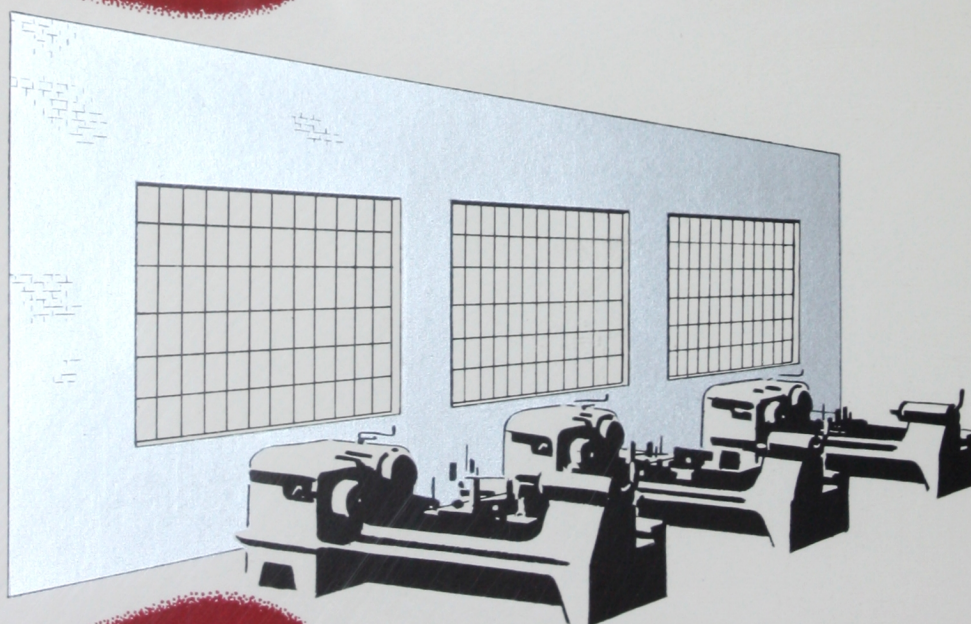
aluminum paint on *brick*

The painting of brick is usually for purposes of decoration, since protection of such surfaces is not required. On interior walls with smoke-darkened and discolored brick surfaces, a single coat of aluminum paint will provide a surface that reflects light and improves lighting conditions in industrial and business buildings and institutions.

It serves a similar function on the walls of dark courts in crowded metropolitan areas, on area-ways and basement walls in schools, hospitals, and apartment buildings.

Aluminum paint used on the exterior walls of large brick buildings also reflects the heat of the sun and reduces substantially the amount of heat transmitted through the walls to the interior rooms. This is important from the standpoint of the comfort of the occupants. Furthermore, in refrigerated warehouses and other buildings used for the storage of perishable materials, its use has decided commercial advantages.

Aluminum-painting of brick surfaces is a simple operation. One coat of Aluminum Metal and Masonry Paint either brushed or sprayed, will easily hide any colored brick. New mortar joints should be treated with a water solution of zinc sulfate. Old brick requires only a good cleaning with a stiff brush to remove all loose material before painting.



aluminum paint on *plaster*

Properly formulated aluminum paint gives excellent service on plaster either as a sizing coat on new walls, or as a first coat in repainting old plaster walls that show bad hairline cracks. It may also be used as a finish coat on sand-finished plaster walls as a decorative light-colored surface. It also serves as an excellent "vapor barrier" to retard the passage of moisture from within the building to the outside walls, thus helping to minimize paint failures on the exterior surfaces of frame buildings.

Smooth Plaster

Surfaces to be painted: Interior Walls of Kitchens, Bathrooms, Basements, Factories and Bakeries.

Uses: As a priming coat on new plaster walls, as an undercoat on old painted walls, or as a finish coat on industrial interiors.

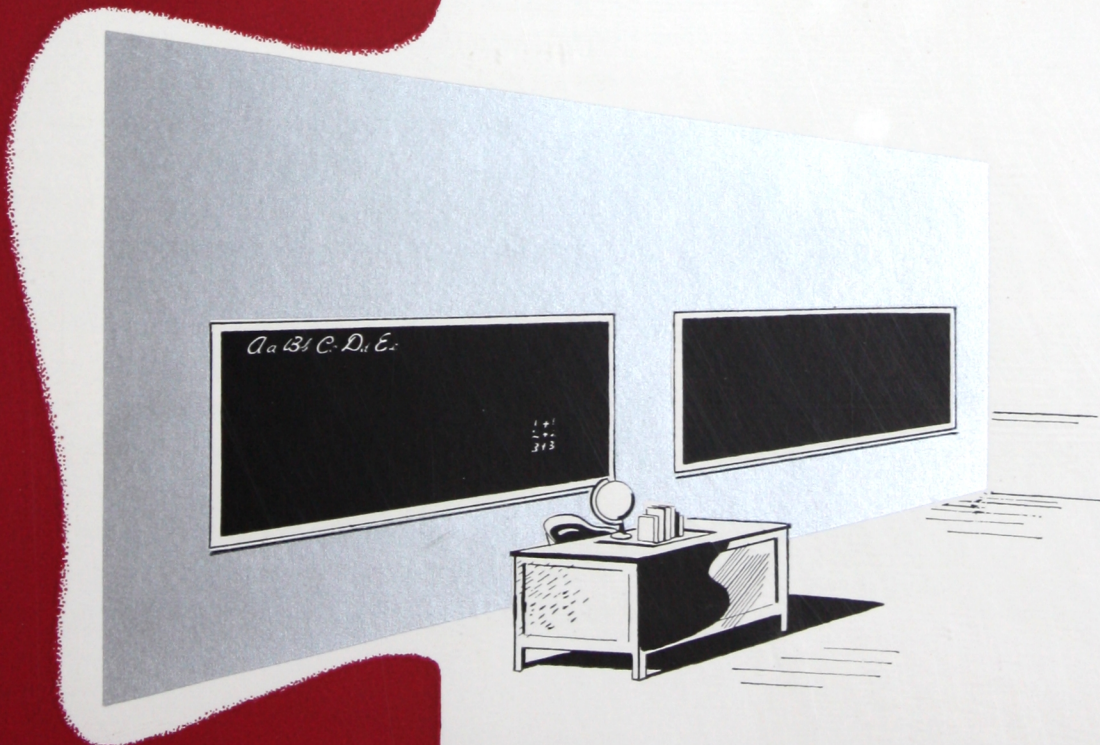
Application: On new walls (not aged) wash surface with a solution containing 3 pounds of zinc sulfate per gallon of water and allow to thoroughly dry. On previously painted surfaces, clean well and remove all loose materials. Apply one coat of Aluminum Metal and Masonry Paint.

Rough or Sand Finished Plaster

Surfaces to be painted: Club Walls, Recreation Rooms and similar applications.

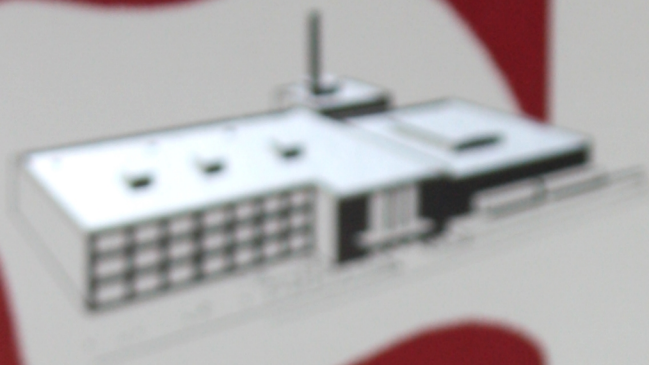
Uses: As primer and finish coat or as a one coat job.

Application: Remove all loose material. Apply one or two coats of Aluminum Metal and Masonry Paint.



aluminum
paint on

composition roofing



Composition roofs are subject to the almost constant attack of sunlight and moisture.

The life of such roofs may be greatly extended by the application of aluminum paint. Its highly reflective metal barrier turns back the sun's rays, protecting the roof and reducing the temperature of the building's interior. Aluminum Metal and Mastic Paint is recommended for this use. It is necessary only to clean the roof thoroughly, then apply one or two coats with a mop, brush or spray gun.

aluminum
paint on

stucco



Aluminum paint provides the same high order of protection to stucco as to concrete, preventing surface disintegration and weathering. In addition, it is so excellent a barrier to further painting. However, the same protection must be observed — the surface should have *aged* sufficiently to allow evaporation of moisture and setting of lime and other alkalies in the stucco. On new stucco this weathering requires from two to six months.

On old, weathered stucco, aluminum paint helps to fill hairline cracks and shrubs, and to mask some aluminum surface spots along the cracks, permitting exposure to dry to a uniform, smooth surface.

After aging new stucco, or cleaning aged stucco, apply one coat of Aluminum Metal and Mastic Paint. Allow to dry 48 hours before applying exposure. If stucco is to be painted a color other than aluminum

aluminum
paint on

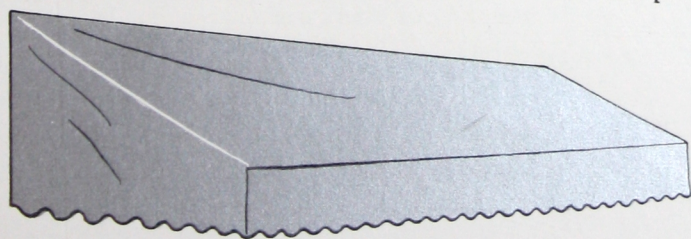
gypsum and wallboard



Fiber and plaster-boards are often difficult to paint because of their high absorption characteristics. Aluminum Metal and Masonry Paint provides an ideal sealer and decorative finish for such surfaces. The first coat will be absorbed to some extent, and may show flat spots; if so, it may be followed by a second coat of Aluminum Metal and Masonry Paint, or of Aluminum Enamel if higher luster is desired. If the aluminum paint is used as a decorative coating, a dark colored stenciled border or dado gives a pleasing effect.

aluminum
paint on

canvas



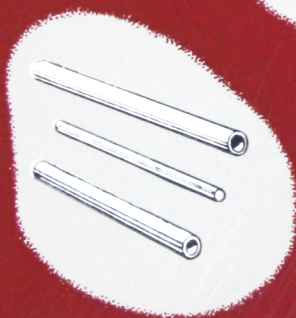
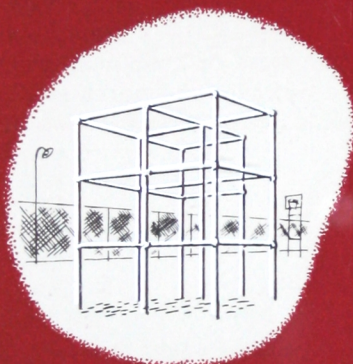
Because of the high protective value of aluminum paint against moisture and sunlight, it is used extensively on canvas. Truck roofs, awnings, and tarpaulins last longer and afford better protection when painted with aluminum. It retards deterioration of the fabric, aids in waterproofing, and has the advantage of reflecting light and heat.

Aluminum Metal and Masonry Paint is the right type for use on canvas. To protect old or new canvas, clean it well, dry it thoroughly, and apply the paint by brushing or spraying. It is recommended as both the primer and finish coat.

aluminum

paint on

aluminum



Aluminum and its alloys are becoming widely used as structural materials and while they are far more resistant to corrosion than steel, they frequently require painting. Aluminum paint is an ideal protective coating for use on aluminum metal surfaces. It is frequently employed both as primer and finish coat. As in the case of steel and other metals, adequate preparation of the surface for painting is an important step to assure good paint performance.

Weather-Exposed Structures

Surfaces to be painted: Roofing, Siding, Window Frames, Gutters, Downspouts, Flashing, Metal Ventilators, and similar applications.

Uses: As first and finish coats or as a finish coat over a special inhibitive primer.

Application: Allow aluminum surface to weather for about two months. Brush off surface dust and dirt with stiff bristle brush, sanding lightly where necessary. In cases where aluminum must be painted at once, treat surface with a diluted proprietary solution containing phosphoric acid and grease solvents. Follow this by rinsing with clean water and drying. Apply one or two coats of Aluminum Metal and Masonry Paint or one coat over a zinc chromate primer.

Interior Surfaces

Surfaces to be painted: Ducts, Partitions, Interior Trim, Fixtures, etc.

Uses: As first coat or finish coat.

Application: Lightly sand aluminum surface and clean with solvent or treat with phosphoric acid solution as described for weather-exposed surfaces. Apply one or two coats of Aluminum Metal and Masonry Paint or Aluminum Enamel.

aluminum paint on WOOD



Aluminum Paint has excellent durability and protective value when used as a priming and finish coat on weather-exposed wood. The durability of a first and finish coat of aluminum paint on lumber is usually more than twice that of ordinary oil paints. This makes it particularly useful for painting houses in industrial towns, frame factory buildings, and the wood portion of brick buildings.

On weather-exposed wood, always use a priming coat of Aluminum Paint for Wood (sometimes called Aluminum House Paint). Allow the priming coat to "set" for at least a week before applying the finish coat of aluminum or oil paint.

Weather-Exposed Wood

Surfaces to be painted: Fences, Pipe Racks, Sheds, Company Houses, Frame Factory Buildings, Wood Window Sash, Frames and Sills.

Uses: As a primer, or as both primer and finish coats.

Paint: Aluminum Paint for Wood (Aluminum House Paint).

Interior Wood

Surfaces to be painted: Woodwork, Basement Ceilings, Incidental Wood in Industrial Interiors.

Uses: As first coat or finish coats.

Paint: Aluminum Metal and Masonry Paint.

Stained Wood to be Painted White

Aluminum paint is efficient in the prevention of bleeding of oil soluble wood stains. Light-colored top coats may be applied over such stains when the correct

aluminum paint is used first as a sealer. For interior use, apply Aluminum Enamel or Aluminum Metal and Masonry Paint over the stain, followed by one coat of flat and one coat of gloss enamel of your color choice.

For exterior uses, such as over creosote-stained wood shingles, apply two coats of Aluminum Paint for Wood, for an aluminum finish, or use two coats of ordinary outside house oil paint over the aluminum first coat. Use two coats of aluminum paint to seal surfaces protected by eaves and porch roofs. Be sure to allow one week's drying time between the primer and the topcoats for best resistance to stain bleeding.

Back-painting with Aluminum

Blistering of outside coats of paint on frame buildings, such as textile mills and food processing plants, where the humidity within the building is high, may be caused by the escape of moisture through the walls, and its condensation under the outside paint. There are three ways that aluminum paint can help to prevent this. First, in new construction, lumber used for the exterior of the building should be back-painted (i.e. painting the back side of each board) with Aluminum Metal and Masonry Paint. One coat will provide a moisture barrier within the wall, and retard the passage of moisture through the wood to blister outside coats. On an existing building, the interior plaster wall may be given a sealer coat of Aluminum Metal and Masonry Paint, which may be used as the finish coat or as a primer for colored enamels. If this is impracticable, the blistered exterior paint may be removed and a priming coat of Aluminum Paint for Wood applied to the lumber. It may be followed by a finish coat of Aluminum Paint for Wood, or by two coats of any good oil paint. No paint treatment can succeed in preventing blistering if the moisture conditions are unusually severe.

Questions and Answers

about Industrial Maintenance Painting

Each year Alcoa's Paint Service Bureau answers thousands of questions from paint users. Those asked most frequently by business and industrial users of paint are listed here, with their answers. If you have a question not answered in these pages, write PAINT SERVICE BUREAU, Aluminum Company of America, Gulf Building, Pittsburgh 19, Pa.

1. Q. *How many square feet per gallon will aluminum paint cover?*

A. Aluminum paint is famous for its high spreading rate, because it hides any surface, even with a single coat. The table on page 31 gives alphabetically by surface, the ideal coverage of the three types of aluminum paint described in this book and is a convenient check list of the surfaces for which each paint is recommended. Actual coverages obtained will differ from the ideal, because of variations in temperature, roughness of the surface, and absorption characteristics.

2. Q. *What kind of aluminum paint shall I use on my furnace front and boiler?*

A. Use Aluminum Enamel for painting surfaces hotter than 212 degrees. This type of aluminum paint contains special heat-resistant ingredients. Do not use either Aluminum House Paint or Aluminum Metal and Masonry Paint for this purpose, because they contain too much oil for this application and may darken and peel.

3. Q. *What shall I use to paint wood, concrete or metal surfaces on the interior of my buildings?*

A. Use Aluminum Metal and Masonry Paint on all three. On heated surfaces and for special decorative effects use Aluminum Enamel. For cement floors, see Q. 6.

4. Q. *Would it look all right to leave my buildings in the aluminum color after I use Aluminum House Paint?*

A. The color of aluminum paint weathers to a silver-gray and is quite pleasing. Dark green or brown trim has the effect of increasing the contrast and from a short distance the buildings appear white. Industrial buildings of wood are very attractive in aluminum.

5. Q. *Can you use aluminum paint over a water paint?*

A. There are three kinds of water thinned paints — white wash, cement paint and the resin emulsion or casein types. The adhesion of white wash is usually poor and we do not recommend aluminum paint over such coated surfaces. The better cement paints can be safely painted over with aluminum paint if the coating appears to be clinging tightly. The resin emulsion or casein paint can be painted over with aluminum paint if only one or two coats of the water paint have been applied. If more than two coats have been used, size the surface with a special clear plaster size before using any paint that makes use of varnish or drying oils in the vehicle.

6. Q. *Is Aluminum Paint good on concrete floors?*

A. Aluminum Metal and Masonry Paint will do a good job of sealing your concrete floor, but it must be protected from abrasion by one or two coats of floor enamel.

7. Q. *Will an Aluminum House Paint first coat stop mildew?*

A. Mildew is a fungus or mold growth that occurs on the surface of paint films in warm, damp climates. The kind of primer used will have little effect one way or the other. There are special house paints on the market that contain poisonous substances which act as a fungicide and prevent mildew growth. We suggest you consult your paint dealer for information on these products.

8. Q. *Can I spray Aluminum Paint or is it best to brush it on?*

A. All metal and masonry surfaces can be painted with aluminum paint by spraying. For priming wood, brushing is the preferred practice since experience shows that you get better adhesion. Spraying can be used where necessary, but, if possible, a brush should be run through the newly applied film so that good contact with the wood is obtained. It is all right to spray the topcoats over the aluminum primer. The practice of thinning *any* of the three types of aluminum paint as a preparation for spraying is *not* recommended.

9. Q. *What paint shall I use on the canvas roof of a truck?*

A. Use Aluminum Metal and Masonry Paint for sealing and protecting canvas and other fabric surfaces. No special primer is required.

10. Q. *Do I need a special primer when painting brick or concrete surfaces?*

A. No special primer is needed under Aluminum Metal and Masonry Paint on weathered concrete or brick surfaces. Treat new concrete or brick surfaces with a solution of zinc sulfate or, better, allow the surface to weather six months before painting.

11. Q. *Are ready-mixed aluminum paints as satisfactory as those you mix fresh each time you use them?*

A. There are now many good ready-mixed aluminum paints that are just as bright as those that are freshly mixed. The types of aluminum paints discussed in this book are sold by manufacturers in ready-mixed form. However, if ready-mixed paint does not give a brilliant metallic paint film, its "leafing" qualities have depreciated. Still durable, its appearance may not be satisfactory for every application.

12. Q. *Will Aluminum House Paint first coater act as a primer on rusty metal?*

A. No. Aluminum House Paint is intended solely for exterior wood. No kind of aluminum paint should be used to prime coat rusty metal. Clean steel thoroughly, then use red lead, blue lead, zinc chromate or some other type of "rust-inhibitive" priming paint. Any of these primers under Aluminum Metal and Masonry Paint will mean additional years of service on exterior iron and steel.

13. Q. *What aluminum paint shall I use on a roof?*

A. On wood shingle roofs use Aluminum House Paint. On metal and composition roofs, use Aluminum Metal and Masonry Paint. On metal roofs, first use an inhibitive primer that will stop rusting. For best results, use two coats of aluminum paint in all cases.

14. Q. *Will Aluminum Paint stop the sweating of moisture on plaster walls?*

A. No paint can prevent condensation if the humidity inside your home is too high for the temperature of the walls. Insulation between inside and outside will help this situation.

15. Q. *How do I change dark stained woodwork to a light color?*

A. A coat of Aluminum Enamel or Aluminum Metal & Masonry Paint is an effective seal against bleeding of decorative wood stains. First, wash the woodwork with strong soap and water to remove any wax or oil. If the surface has been varnished, a light sanding is recommended before applying the Aluminum Enamel. Allow 24 hours drying time. Then apply a flat enamel undercoater followed by a topcoat of enamel in the color you select.

16. Q. *Can aluminum paint be used successfully on stucco?*

A. Aluminum Metal and Masonry Paint is the ideal first coat for repainting stucco. It seals hairline cracks and reduces "suction" of topcoats applied over it. Apply a second coat if you want an aluminum finish.

17. Q. *Do you recommend Aluminum Paint on concrete swimming pools?*

A. Good results for one season are frequently obtained by the use of two coats of Aluminum Metal and Masonry Paint on the concrete surface in swimming pools. The surface should be well dried before application. There are also on the market special swimming pool paints that offer excellent service when contractor-applied. Ask your paint dealer about them.

18. Q. *Will Aluminum House Paint stop blistering and peeling on my building?*

A. Blistering and peeling are most often caused by moisture trapped behind the siding. Do not apply any kind of paint over failures of this type until moisture conditions have been investigated and corrected. Write Paint Service Bureau for pamphlets on this important subject.

19. Q. *Rust from the nailheads in the siding on wood buildings is spoiling my paint job. Can you tell me what causes this and how it can be prevented?*

A. This difficulty is often caused by interior moisture seeping by the nailhead and staining the paint. We recommend that the next time you paint, you have a carpenter set the nailheads $\frac{1}{8}$ inch below the surface and the painter can then fill the holes with putty before applying the new paint. Also see Q. 18.

20. Q. *Will aluminum paint prevent dampness from water seepage in my basement?*

A. No paint containing drying oils applied on interior walls will stop seepage if ground water is present under pressure outside the wall. Good drainage, plus a waterproofing treatment of the outside surface, is recommended. Drainage of ground water in contact with the outside walls will also reduce moisture condensation on the interior surfaces that are cooled below the dew point by this water.

21. Q. *What reduction of temperature can I expect inside a building if I paint the black metal roof with aluminum?*

A. The surface temperature may be reduced as much as 30° F. on a bright summer day. The difference inside the building will depend on many factors such as wind velocity, ventilation provided, the insulation value of the roof and roof sheeting, size of building, etc. Under favorable conditions, tests have indicated reduction in inside temperatures of 10 to 15 degrees.

22. Q. *Can I tint aluminum paint to get a colored paint with a metallic luster, or can I buy a colored aluminum powder?*

A. Adding small quantities of a good aluminum paint to a paint of another color will change the shade, impart a metallic effect and improve the durability. Various colored aluminum powders are available from paint dealers but the dyes used are not fast to light and the powders show little or no leaching.

23. Q. *Will aluminum paint stop the stains from my bronze or copper screens?*

A. Use either Aluminum Metal and Masonry Paint thinned 25 per cent with turpentine or Aluminum Enamel without thinning for one or two seasons protection against this action. We believe you will find the color effect quite pleasing.

24. Q. *Can I use aluminum paint on the wood floor of my loading platform?*

A. Use Aluminum Metal and Masonry Paint as a primer followed by a good porch and deck enamel in the color desired. Aluminum paint films alone are too flexible to resist heavy abrasion.

25. Q. *Will aluminum paint darken like lead paint when exposed to sulfur fumes?*

A. Aluminum paint is resistant to hydrogen sulfide and other sulfur-containing gases. Its color remains unaffected by exposure to such fumes.

26. Q. *Can I use Aluminum Enamel on my boiler stacks?*

A. Do not use Aluminum Enamel on exterior exposure. It will resist heat on the breeching inside the building but not out-of-doors. If the stack is lined with brick, Aluminum Metal and Masonry Paint will do a good job because the surface will not get hot enough to discolor this type of coating. On unlined stacks, consult your paint supplier for his recommendations.

27. Q. *Will aluminum paint stand up near the seashore? Does it protect against salt spray?*

A. Aluminum paint is classed as the best coating to use under sea-air conditions. Many bridges and other steel structures are protected by aluminum of the metal and masonry type. It is essential though that the rusted steel be cleaned and primed with a good rust-inhibitive paint before using aluminum. Always apply two coats of aluminum paint under these conditions. On wood surfaces, Aluminum House Paint gives unequalled protection both as a primer or as a finish coat.

28. Q. *Will aluminum paint work in my ice cream plant where there are ammonia fumes from my ice machines?*

A. Use Aluminum Metal and Masonry Paint under these conditions. It protects against corrosion by ammonia gas and remains bright and clean.

29. Q. *How can I prevent laps and streaks when brushing aluminum paint on my water storage tank?*

A. Always brush toward the wet edge of the paint you have applied. Do not brush over the paint that has begun to set with a "dry" brush. It disturbs the leafed surface and leaves a dark streak. On very hot days, add kerosene in the proportion of a half-pint to the gallon to slow down the rapid set caused by the warm metal evaporating the thinner too rapidly.

Aluminum Paint Coverage Table*

(Area in square feet per gallon)

Surface	Aluminum Metal and Masonry Paint		Aluminum House Paint		Aluminum Enamel	
	Brush	Spray	Brush	Spray	Brush	Spray
Bituminous — Coated						
Exterior.....	600	500	X	X	X	X
Interior.....	600	550	X	X	800	700
Brick						
Exterior.....	550	475	X	X	X	X
Interior.....	550	500	X	X	700	575
Canvas						
Exterior.....	400	X	X	X	X	X
Interior.....	400	X	X	X	550	450
Concrete						
Exterior.....	500	500	X	X	X	X
Interior.....	500	550	X	X	600	700
Fiber Board						
Interior.....	450	500	X	X	500	600
Galvanized Iron						
Exterior.....	600	500	X	X	X	X
Interior.....	600	500	X	X	800	750
Gypsum-Board						
Interior.....	500	500	X	X	700	700
Hot Surfaces						
Exterior.....	X	X	X	X	X	X
Interior.....	X	X	X	X	800	X
Metal						
Exterior.....	600	500	X	X	X	X
Interior.....	600	500	X	X	800	750
Plaster						
Smooth.....	600	500	X	X	750	750
Rough.....	475	475	X	X	600	650
Roofing (Composition)						
Smooth.....	475	X	X	X	X	X
Rough.....	300	X	X	X	X	X
Shingles						
Composition.....	400	X	X	X	X	X
Wood.....	X	X	450	X	X	X
Stucco						
Exterior.....	375	400	X	X	X	X
Wood (new)						
Exterior.....	X	X	550	X	X	X
Interior.....	600	500	X	X	750	700
Wood (old)						
Weathered.....	X	X	450	X	X	X
Interior.....	600	500	X	X	750	700

* Data based on a temperature of 75° F. and for first coat only. You may expect 15 per cent more coverage with second coats.

X Not recommended.

ALUMINUM COMPANY OF AMERICA

GENERAL OFFICES—GULF BUILDING, PITTSBURGH 19, PA.

Sales Offices

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ALBANY 7, N. Y.....	90 State Street
ALLENTOWN, PA.....	1136 Hamilton Street
ATLANTA 3, GA.....	1800 Rhodes-Haverty Building
BALTIMORE 1, MD.....	400 Baltimore Life Building
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SAN FRANCISCO 4, CALIF.....	615 Russ Building
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SOUTH BEND 5, IND.....	805 J.M.S. Building
SPRINGFIELD 3, MASS.....	232 Tarbell-Watters Building
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YORK, PA.....	205 Manufacturers Building

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